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U. S. Department of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE
WEATHER BUREAU

FIRE WEATHER FORECAST
TERMINOLOGY

1937

UNITED STATES DEPARTMENT OF AGRICULTURE

WEATHER BUREAU,

Washington, D. C., October 31, 1937

The terminology prescribed herein is for use in connection with weather forecasts issued as an aid in the protection of forests from fire, and will become effective January 1, 1938.

Its primary purpose is to define the expressions to be used in such forecasts, in order to assure uniform understanding as to their meanings. It is expected that officials of the Weather Bureau charged with the duty of issuing fire-weather forecasts will confine themselves to the prescribed terms as far as it is practicable to do so.

WILLIS R. GREGG,

Chief of Bureau.

DEC 6 - 1937

M. L.

EXPLANATION

ORDER OF ARRANGEMENT OF ITEMS IN FORECASTS

- (a) Weather
 - (b) Temperature
 - (c) Relative humidity
 - (d) Wind direction and velocity
- Supplementary information when required:
- (e) Danger statements (if any)
 - (f) Special advices (cautionary remarks or miscellaneous)

TYPES OF FORECASTS

The following types of forecasts are authorized, and will be used in whole or in part as circumstances warrant.

- General Outlooks Covering expected conditions for 2 to 3 days in advance. They will be issued in generalized language, and then only when circumstances warrant.
- Daily forecasts Covering expected conditions for the first 12 hours in as much detail as practicable, and for succeeding 12-hour periods, not in excess of a total of 48 hours, in lesser detail.
- Special localized forecasts - Issued for short periods (3 to 12 hours) in as much detail as circumstances warrant. They are issued when emergency conditions arise, or when required.

PERIODS COVERED BY FORECASTS

- A.M. forecasts
 (local time)
- First period, time of release to 7:30 p.m. of current day, termed "Today".
- Second period, 7:30 p.m. current day to 7:30 a.m. following day, termed "Tonight".
- Third period, 7:30 a.m. to 7:30 p.m. of following day, (Give name of day).

PERIODS COVERED BY FORECASTS--(Continued)

P.M. forecasts First period, time of release to 7:30 a.m.
(local time) next morning, termed "Tonight"
Second period, 7:30 a.m. to 7:30 p.m. of
following day, (give name of day)
Third period, 7:30 p.m. of following day
to 7:30 a.m. second day ahead,
(give name of day).

On occasions more restrictive time periods may be used as follows, and with time definitions as indicated. (local time).

Early morning ----- midnight to sunrise
*Forenoon ----- sunrise to noon
*Afternoon ----- noon to sunset
Mid-day ----- 10 a.m. to 2 p.m.
Early night ----- sunset to 10 p.m.
Middle night ----- 10 p.m. to 2 a.m.

*These terms may be modified by "early" or "late" as appropriate.

AREAS COVERED BY FORECASTS

Forecast statements in accordance with term definitions given in pages 3 to 9, inclusive, are intended to apply to the area as a whole unless otherwise indicated. Modifying terms may be used to indicate the parts of the area over which occurrence is expected, as follows:

General(ly) Widespread, all or most of the area.
Local(ly) Limited, or scattered parts of the area.
Slopes Appropriate sides of major mountain divides, the whole of the slope from toe to ridge; given direction names such as "west", "north" etc..
Portions Any area of such size as to justify sub-division for forecast purposes may be so divided into portions, which will be given directional names such as NW, E, SW, etc... Small areas will not ordinarily be divided.

ALTITUDE ZONES USED IN FORECASTS

Highest :
Higher :
Intermediate : Meaning obvious
Lower :
Lowest :

FORECAST TERMS AND DEFINITIONS

WEATHER

Clear	<u>No precipitation.</u> Sky free or nearly free from clouds..(Average for period 0 to 3 tenths of sky covered).
Partly cloudy	<u>No precipitation.</u> Sky partially clouded. (Average for period 4 to 7 tenths of sky covered).
Cloudy or Overcast	<u>No precipitation.</u> Sky completely overcast or nearly so. (Average for period 8 tenths or more of sky covered).
Fair	<u>No precipitation.</u> A general term to indicate that precipitation is not expected. Sky conditions may range from clear to cloudy.
Generally fair	<u>No precipitation.</u> except for slight possibility of light showers in widely scattered places. Variation in cloudiness with tendency toward stable and settled weather.
Mostly cloudy	<u>No precipitation.</u> Mostly overcast skies, but with occasional breaks of substantial duration and extent.
Increasing cloudiness	<u>No precipitation</u> during period, but progressive increase in cloudiness, either in amount of sky covered, or in density of cloud layers, with expectation that precipitation will follow at the time indicated in the forecast. This term will not be used in a forecast that contains no reference to precipitation.
Decreasing cloudiness	<u>No precipitation.</u> Progressive decrease in the amount of sky covered, or density of clouds. It will not be used in association with a precipitation forecast.
Threatening	<u>Precipitation unlikely.</u> Sky covered with dark, lowering clouds. Precipitation hardly expected, but some possibility light rain or snow in small, scattered areas. (Less than 50% chance).
Unsettled	<u>Precipitation unlikely.</u> Considerable cloudiness and occasionally threatening weather. Precipitation not expected, but slight possibility of showers in a few small, scattered areas. (Less than 50% chance of occurrence)
Clearing	<u>Precipitation to end during the time period specified,</u> followed shortly by clearing skies.

Foggy	<u>No precipitation, but condensation on surface objects. May be modified by terms "Light" or "Dense"; or may be expressed as "Fog and/or low clouds" when uncertainty exists whether one, the other, or both may occur.</u>
Rain or Snow	<u>Precipitation of comparatively long duration as distinguished from showers or flurries. Precipitation expected over a major portion of the area. Amount not generally specified, but more than .02" expected. May be modified by terms given below to indicate probable average amount.</u>
Occasional Rain or snow	<u>Precipitation at infrequent intervals and not prolonged, but widespread. More than .02" expected, and amount may be indicated by use of the modifying terms given below.</u>
Local rain or snow	<u>Precipitation of comparatively long duration over limited portions of the area. Amounts indefinite unless modifying term is added.</u>
General rain or snow	<u>Widespread precipitation of prolonged duration, and in amount sufficient to materially reduce fire danger.</u>
Showers or Flurries	<u>Precipitation intermittent and of short duration. May be modified by the terms "General" or "Local" and/or by terms given below.</u>
Dew or Frost	<u>Widespread liquid or frozen condensation on surface objects. May be modified by the terms "Light" or "Heavy".</u>

In precipitation forecasts, the following modifying terms may be used:

Light	Less than .10" rain, or 1 inch layer of snow.
Moderate	Between .10" and .50" rain, or 1" and 5" snow.
Heavy	More than .50" rain, or 5 inch layer of snow.

THUNDERSTORMS

Lightning (thunder may or may not be heard) in connection with cumulus type clouds. Precipitation occurring in the storm may or may not reach the ground. Any of the following terms relating to intensity of the storm, area affected, size of disturbance, and amount of accompanying precipitation may be used in thunderstorm forecasts.

Mild	:
Moderate	: Relating to intensity of storm activity.
Severe	:
General	Widespread and of large size.
Scattered	Sporadic distribution.
Local	Occurring over comparatively limited areas of small or moderate size.
Dry	Less than .10 inch accompanying rainfall.
Moist	.10 to .50 inch accompanying rainfall.
Wet	More than .50 inch accompanying rainfall.

TEMPERATURE

Changes refer to corresponding times 24 hours previous.

Warmer	Higher temperatures by 6 ° F. or more. May be modified by terms given below to indicate magnitude of expected change.
Cooler, or Colder	Temperatures lower than 24 hours previous by 6° or more. May be modified by terms given below to indicate magnitude of expected change.
Rising	Temperatures or positive changes increasing progressively during the period (at least 6° F. higher expected by end of period)
Falling	Temperatures becoming progressively lower when compared with corresponding times 24 hours previous. (At least 6° F. lower expected by end of period.)
Little change	Changes of less than 6° F. in either direction.
Continued	Indicates that conditions will remain unchanged within a 6 degree limit.
Maximum or Minimum	The forecaster may indicate his estimate of the maximum or minimum temperatures for the day by quoting specific figures.

Terms used in temperature forecasts to indicate a change may be modified as follows:

Slightly	Less than 6 degrees change.
Somewhat	6° F. to 12° F. change.
Much	More than 12° F. change.
No modifying term used	Amount of change indefinite.
Slowly or Rapidly	Indicating expected rate of change.

RELATIVE HUMIDITY

All changes refer to corresponding times 24 hours previous, expressed in the following terms:

Higher	Higher humidities. May be modified by the terms given below to indicate magnitude of expected change.
Lower	Lower humidities. May be modified by the terms given below to indicate magnitude of expected change.
Little change	Change of less than 5% expected.
Maximum or Minimum	The forecaster may at his discretion indicate the maximum or minimum humidity expected during the period by quoting specific figures.

Terms used in humidity forecasts to indicate change may be modified as follows:

Slightly	Change of 5% or less
Somewhat	" " 6% to 15%
Materially	" " 16% to 30%
Decidedly	" " 31% or more.

Rising or Falling	Progressive change in the direction indicated.

The approximate level of humidity expected may be indicated by the following terms:

Very high	Over 80%
High	61% to 80%
Moderate	41% to 60%
Low	21% to 40%
Very low	20% or less.
Acutely low	10% or less.
Becoming	Indicating a change from one to a higher or lower humidity level.

WIND DIRECTION

Wind direction ordinarily will be specified in forecasts to eight points, the direction indicated being the center of an arc of $22\frac{1}{2}^{\circ}$ or $1/8$ th. circle FROM which the average regional wind is expected to blow.

North	Southeast	West
Northeast	South	Northwest
East	Southwest	

Composite direction indications may be used, such as "North to northeast", "Southeast to south", etc., or a more general direction classification may be used as follows:

Northerly	Southeasterly	Westerly
Northeasterly	Southerly	Northwesterly
Easterly	Southwesterly	

Veering A progressive change in direction in a clockwise sense.

Backing A progressive change in direction in a counter-clockwise sense.

Becoming Indicating a change from one to another specified direction.

Wind direction terms may be modified as follows:

Variable Uncertain and irregular -- usually subject to slow to moderate changes of varying magnitude.

Changeable Uncertain and irregular changes of direction of more decided nature and magnitude than "Variable".

Mostly A modifier used when winds will be subject to some variability, to indicate what direction will predominate.

WIND VELOCITY

Forecasts of wind force or velocity are made in general terms related to certain group classifications based on Beaufort wind scale deductions. The terms, given below, indicate the approximate average wind velocity expected during the period as a whole.

Calm -----	Less than 1 m.p.h.
Very light -----	1 to 3 "
Light -----	4 to 7 "
Gentle -----	8 to 12 "
Moderate -----	13 to 18 "
Fresh -----	19 to 24 "
Strong -----	25 to 38 "
Gale -----	39 to 54 "
Whole gale -----	55 to 75 "
Hurricane -----	Over 75 m.p.h.

- Upslope A topographic wind due to surface heating during the day, blowing upslope at all points. Commonly occurs during the daylight hours, reaching its maximum force usually during mid-afternoon.
- Downslope A topographic wind due to nocturnal cooling and blowing downslope, reaching its maximum force during early morning hours. Most noticeable in valleys, coves, and other natural drainage channels.
- Eddies Eddies in the generally-prevailing wind flow produced mechanically to the leeward of mountain ridges, peaks, etc.. May have vertical or horizontal components, but direction is generally different from the regional wind.

Wind velocity terms may be modified as follows:

- Gusty Rapid and wide variations in force in short time intervals. May be modified by the terms "Somewhat", "Moderately" or "Very".
- Squally Recurrent blasts of longer duration than gusts, and from a fairly steady direction.
- Increasing: Used when a change in wind force is expected
- Decreasing: to indicate direction of the tendency.

The forecaster may at his discretion specify wind velocities in miles per hour when the forecast is not intended for telegraphic distribution.

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